

WHAT IS CLAIMED IS:

1. A method for detecting the presence of clear cell renal cell carcinoma (CC-RCC) in a subject, or the susceptibility of the subject for developing CC-RCC comprising detecting or measuring LSAMP and/or NORE1 gene expression in a sample from the subject, and comparing the expression with a baseline level of expression, wherein a reduction in the expression of one or both of said genes compared to the baseline level indicates that the subject suffers from, or is susceptible to CC-RCC.
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2. The method of claim 1 wherein the expression is detected or measured as transcription of mRNA encoded by the LSAMP and/or NORE1 gene, by detecting or measuring the presence or amount of said mRNA in said sample.
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3. The method of claim 1 wherein the expression is detected or measured as a polypeptide product encoded by the LSAMP or NORE1 gene, by detecting or measuring the presence or amount of LSAMP or NORE1 polypeptide in said sample.
4. The method of claim 3 wherein said detecting or measuring is performed with a binding partner for said LSAMP1 or NORE1 polypeptide.
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5. The method of claim 4 wherein said binding partner is an antibody specific for an epitope of said LSAMP1 or NORE1 polypeptide and said detecting or measuring is by an immunoassay.
6. The method of any of claims 1-5 wherein said sample is a cell, tissue or tissue extract.
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7. The method of any of claims 1-5 wherein said sample is a body fluid selected from the group consisting of blood, plasma, serum, urine, saliva or cerebrospinal fluid.
8. The method of claim 7 wherein said sample is a kidney tumor.
9. The method of claim 8 wherein said sample is section of a paraffin embedded tissue section of said kidney tumor.
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10. A method for inhibiting a cancer-associated property of a cell in which the expression of the *LSAMP* and/or *NORE1* genes is reduced compared to a baseline value, comprising providing to the cell an effective amount of *LSAMP* and/or *NORE1* polypeptide or active fragment or variant thereof, wherein said polypeptide fragment or variant augments the 5 level of *LSAMP* and/or *NORE1* gene products in the cell, thereby inhibiting said cancer-associated property.

11. The method of claim 10 wherein the providing is by microinjection, liposome-mediated introduction, or electroporation.

12. A method for inhibiting a cancer-associated property of a cell in which the 10 expression of the *LSAMP* and/or *NORE1* genes is reduced compared to a baseline value, comprising providing to the cell an effective amount of

- (a) an *LSAMP* and/or *NORE1* polypeptide or active fragment or active variant thereof;
- (b) an expressible polynucleotide encoding said *LSAMP* and/or *NORE1* polypeptide, fragment or variant; or
- (c) an agent that induces or increases expression of the *LSAMP* and/or *NORE1* genes;

15 wherein said polypeptide, fragment or variant, said polynucleotide or said agent results in an increased level of *LSAMP* and/or *NORE1* gene products in the cell, thereby inhibiting said, 20 cancer-associated property.

13. The method of claim 12 wherein said property is tumor growth.

14. The method of claim 12 wherein the providing is by microinjection, liposome-mediated transfer, electroporation or microinjection.

15. A method for treating a subject with CC-RCC in whom CC-RCC cells under- 25 express the *LSAMP* and/or the *NORE1* gene compared to a baseline value, which method comprises administering to the subject an effective amount of

- (a) an *LSAMP* and/or *NORE1* polypeptide or active fragment or active variant thereof;
- (b) an expressible polynucleotide encoding said *LSAMP* and/or *NORE1* polypeptide, fragment or variant; or

(c) an agent that induces or increases expression of the *LSAMP* and/or *NORE1* genes;

wherein said polypeptide, fragment or variant, said polynucleotide or said agent results in an increased level of *LSAMP* and/or *NORE1* gene product in the under-expressing CC-RCC cells, 5 thereby treating said subject.

16. The method of claim 15, wherein the polypeptide, active fragment, active variant, or agent is administered systemically or intratumorally.

17. The method of claim 15 wherein the polynucleotide being administered comprises a sequence encode the polypeptide, fragment or variant operably linked to an 10 expression control sequence which promotes or induces expression of the polypeptide in said subject.

18. The method of claim 15 or 17 wherein the polynucleotide is administered by injection, by gene gun administration, or by needle-free jet injection.

19. The method of claim 18 wherein the polynucleotide is administered 15 intramuscularly or intratumorally.

20. A pharmaceutical composition comprising

(a) as an active moiety, an *LSAMP* and/or *NORE1* polypeptide, or an active fragment or variant thereof, or a polynucleotide encoding an *LSAMP* and/or *NORE1* polypeptide, or encoding an active fragment or variant of the 20 polypeptide, wherein the polynucleotide is operably linked to an expression control sequence; and

(b) a pharmaceutically acceptable carrier.

21. The pharmaceutical composition of claim 20 wherein the active moiety is said polynucleotide.

22. A kit, suitable for a method of detecting the presence and/or measuring amount of 25 an *LSAMP* and/or a *NORE1* polypeptide in a sample, comprising one or more reagents for detecting the polypeptide, and optionally

23. The kit of claim 22 wherein said detecting reagent is an antibody specific for an epitope of the *LSAMP* or *NORE1* polypeptide.

24. The kit of claim 23 further comprising one or more reagents for testing the binding of the antibody to a sample polypeptide and/or for facilitating detection of antibody binding.

25. A kit useful in a method detecting the presence and/or amount of a polynucleotide encoding LSAMP and/or NORE1 polypeptide in a sample, comprising a nucleic acid probe specific for a LSAMP- or NORE1-encoding DNA or RNA, and, optionally, one or more reagents that facilitate hybridization of the probe to the sample DNA or RNA, and/or that facilitate detection of the hybridized probe.

26. A kit useful in a method for treating a subject with CC-RCC, comprising
10 (a) an LSAMP and/or NORE1 polypeptide or active fragment or active variant thereof;
(b) an expressible polynucleotide encoding said LSAMP and/or NORE1 polypeptide, fragment or variant; or
(c) an agent that induces or increases expression of the *LSAMP* and/or *NORE1* genes;

15 and optionally, (i) a means for administering the polypeptide to the subject and (ii) instructions for using the kit.

27. The kit of any of claims 21-26 comprising any one or more of: instructions for performing the method for which the kit is intended and/or for analyzing and/or evaluating the results of the method, a support on which a cell can be propagated, a support to which a reagent used in the method is immobilized, suitable buffers, media components, or other reagents for performing suitable controls, a computer, a computer-readable medium for storing and/or evaluating the assay results, containers or packaging materials.

28. An antibody specific for an epitope of the LSAMP or a NORE1 polypeptide
25 which is useful in the method of claim 5.